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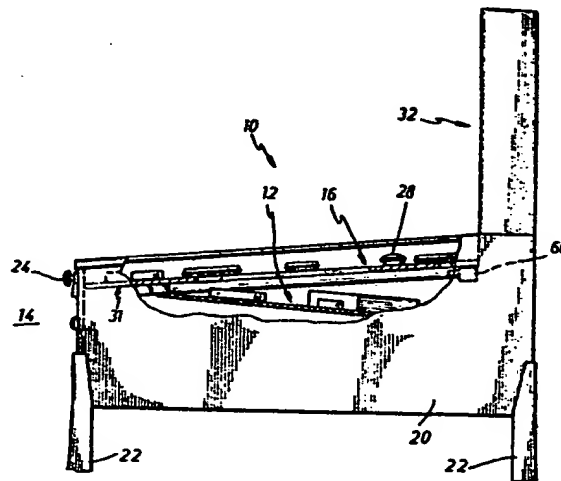
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64 Pinball machine.

57 A pinball game having multiple playfields. The pinball game 10 has a lower playfield 12 which is of reverse-slope in that it slopes downwardly away from a player position 14. The lower playfield 12 is overlayed by an upper playfield 16 which has a conventional slope in that it slopes downwardly towards the player position 14. Each of the playfields 12 and 16 has conventional pinball elements provided thereon, including flipper mechanisms, thumber bumpers 28 and other ball propelling mechanisms of conventional type. The playfields 12 and 16 are mounted in a cabinet 20 which is supported on support legs 22. The pinball game 10 includes a back glass assembly 32 on which various displays are provided.



PINBALL MACHINE

This invention relates in general to pinball machines  
5 or pinball games.

Historically, a pinball machine or game has been  
generally characterized as having a flat playfield,  
slightly inclined toward the player. The playfield is  
10 supported in a cabinet. The cabinet also supports a  
housing for scoring displays and other indicators. The  
so-called back-glass for this display housing is usually  
of a multi-colored, ornate design to attract players.

15 Designers of pinball games constantly strive to  
provide innovations to the pinball game to continue the  
interest in playing pinball. For example, new drop-target  
and roll-over switch designs and new game strategies in  
general have been developed for attracting players and  
20 maintaining a high interest in pinball.

There have been recent proposals to innovate as to  
the playfield itself in an attempt to provide new attrac-  
tions to the pinball player. Pinball games having conical  
25 playfields, rather than a traditional planar playfield,

have been suggested. Pinball games have also been proposed in which a second auxiliary type playfield is associated with a primary playfield on which a ball is controlled during play.

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According to one aspect of this invention there is provided a pinball game comprising a plurality of ball supporting playfields, player controlled flipper mechanisms disposed on each playfield for forcefully propelling a ball thereon, and means for transferring a ball from one playfield to another playfield.

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According to a further aspect of the invention, there is provided a pinball machine or a pinball game which has a playfield sloped away from the player such that, during use, a ball may roll downwardly away from the player. In this aspect of the invention flipper mechanisms would be provided at the lower end of the playfield for forcefully propelling a ball upwardly towards the player.

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The playfields may preferably be in an overlying relationship. Preferably one playfield may be sloped in a direction opposite to that of the other playfield.

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At least one of the playfields, and conveniently all of the playfields, may be planar.

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The pinball game may conveniently have one playfield which is an upper playfield and which slopes downwardly towards a player position at one end of the game, and another playfield which is a lower playfield and which slopes downwardly away from the player position.

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Flipper mechanisms, thumper bumpers, slingshots, and other ball propelling devices may be disposed on each play region. Pinball play on the play region which slopes towards the pinball player or which constitutes the upper  
5 playfield, may conveniently be routine except for its interaction with the reverse-slope playfield or the lower playfield.

10 The playfields of the pinball game may be supported to exhibit differing upper absolute angles from the normal. This allows a ball to roll faster on one playfield or play region than on the other thereby allowing a faster game play on one region than on the other.

15 In this aspect of the invention, the inclination of slope of the playfields or play regions may be adjustable to allow variation of the rate of game play on a region.

20 The means for transferring a ball from one playfield to another may comprise one or more conveyers for transferring a ball from a lower playfield to an upper playfield.

25 Alternatively, or additionally, the pinball game may include means for transferring a ball from one playfield to another in the form of an exit area in the an upper playfield to lead to a lower playfield.

30 The means for transferring a ball may be adapted to operate to repetitively transport a ball from one playfield or one playfield region to another depending upon the skill of a player.

35 In a specific embodiment of the invention, the means for transferring a ball from one playfield to the other comprises a transfer member to lead a ball from an exit

area of one playfield to the other playfield, the transfer member being adopted to impart vertical, forward and lateral forces to such a ball to effect three dimensional ball motion during ball travel along the transfer member.

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In a presently preferred embodiment, this transfer mechanism may be implemented with a generally helically-shaped member in which the ball travels while being transferred from one playfield level to the other. The transfer means or mechanism may also include an elongated tube which is configured to at least substantially encompass the helically-shaped member.

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In an alternative embodiment of this invention, the transfer mechanism or means may include a planar surface having a serpentine groove in which the ball travels during transfer between the playfield levels. In accordance with a further aspect of the invention, means are provided to permit a player to accumulate a first score based on pinball play on a first playfield, while accumulating a second score based upon pinball play on the second playfield. Such a score accumulated based on play on the second playfield is preferably independent of the score accumulated on the first playfield.

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The pinball game may include means for relating the first score and the second score to provide and display a total score.

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The pinball game may relate the first and second scores by adding, by subtracting them or by associating them in some other manner.

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In a specific embodiment of the invention, the pinball game may comprise means for selecting a minimum score to be achieved during pinball play on the first playfield, and means for obtaining a total score by adding the first and second scores if the first score exceeds the minimum score, and by subtracting the second score from the first score if the first score is less than the minimum score.

In accordance with yet a further aspect of the invention, the pinball game may further comprise means for deriving a bonus multiplier based on the second score and for multiplying the first score by the bonus multiplier.

In accordance with a further aspect of the invention, the pinball game includes a ball save mechanism to operate to direct a ball from the second playfield back to the first playfield for further pinball play upon the first playfield if selected pinball conditions are achieved during pinball play on the second playfield. If those conditions are not achieved on the lower playfield play, pinball play may be terminated upon return of the ball to the upper playfield.

In the preferred embodiments of the invention where one playfield overlies another playfield, a viewing area or zone may be provided in the upper or overlying playfield to allow viewing of the underlying playfield. To this end a portion of the upper playfield may include a window comprised preferably of a relatively thin, transparent material such as a pane. The pane may be of plexiglas or of any other suitable synthetic plastics material or the like. The pane may be tinted to facilitate viewing of the lower playfield and to reduce glare.

In pinball the playfield preferably has a smooth surface on which the ball rolls. Such a window should therefore be installed on the upper playfield in such a manner that the upper playfield area forms a continuous  
5 unbroken surface. The window should therefore be mounted such that its upper surface is flush with the upper surface of the remainder of the playfield.

In accordance with this aspect of the invention, the  
10 window may be defined by the overlying playfield having an opening therein for receiving the window. A ledge is preferably formed on the underside of that playfield surface along or around the periphery of the opening. A compressible material, which is preferably resiliently  
15 compressible, is then disposed on the ledge, preferably at spaced intervals along the ledge.

The window pane may then be located on the compressible material and may be secured to the ledge by securing  
20 means which can be operated to compress the compressible material until the window and the playfield lie in substantially the same plane.

The compressible material may be in the form of  
25 grommets or the like, with the securing means being in the form of screws of the like which can be inserted through the grommets and tightened until the desired relative surface elevation between the window and the playfield is achieved.

30 Preferred embodiments of the invention are now described by way of example with reference to the accompanying drawings.

35 In the drawings:

Figure 1 shows a perspective view of a pinball game or pinball machine according to one aspect of the invention;

5 Figure 2 shows a schematic side view of the pinball game of Figure 1, showing sloped multiple play regions and one ball transfer mechanism;

10 Figure 3 shows a front view of the pinball game of Figure 1, illustrating the underside of the upper playfield and showing the underlying reverse-sloped playfield;

15 Figure 4 shows a schematic fragmentary side view of the pinball game of Figure 1, showing one specific embodiment of a ball transfer mechanism in accordance with the present invention;

20 Figure 5 is a schematic fragmentary side view of an alternative embodiment of a transfer mechanism in accordance with this invention;

Figure 6 is a fragmentary plan view of the transfer mechanism of Figure 5;

25 Figure 7 is a diagrammatic top view of a ball save mechanism in accordance with this invention;

30 Figure 8 is a diagrammatic, fragmentary, cross-sectional view of the upper playfield and playfield window of the pinball game of Figure 1 in its unassembled condition; and

Figure 9 is a view similar to that of Figure 8 with the playfield window in its assembled condition.



Referring now to Figures 1 - 3, a new and improved pinball game 10 is constructed and arranged according to the invention. As seen most clearly in Figure 2, the pinball game 10 has a playfield 12 which lies in a plane  
5 sloped away from the usual player position 14 for a pinball game. The pinball game 10 also has a second playfield 16 having a traditional slope towards the player position 14. The playfield 12 will be referred to herein as the reverse-sloped playfield or lower playfield and the play-  
10 field 16 will be referred to as the primary playfield or the conventionally sloped playfield or the upper playfield.

The playfields 12 and 16 have opposite slopes. The term opposite slope as referenced to two surfaces means  
15 that a ball rolling in a plane passing through both surfaces would roll in one direction on one surface and in the other direction on the other surface.

In the preferred and illustrated embodiment, the  
20 pinball game 10 includes the conventional pinball elements. A cabinet 20 is provided for supporting the playfields 12, 16 using conventional hinges and other brackets. The upper playfield 16 is conventionally hinged (hinge not shown) at the end distant from the player, as seen in  
25 Figure 3. A set of supporting legs 22 is provided for elevating the cabinet 20 to a height convenient to the pinball player. A plunger or shooter 24, and a set of flipper control switches 26 are disposed on the cabinet 20 near the player position 14. Sets of thumper bumpers  
30 28, flipper mechanisms 30, and other ball propelling devices such as slingshots, etc. are disposed in a conventional manner on the primary playfield 16. A conventional solenoid-operated out-hole 31 is provided to return the  
35 ball to the shooter 24 when this ball is lost in play

between the flipper mechanisms 30 or when the ball is returned from the lower playfield 12, as will be hereafter explained.

5       A back glass assembly 32 is supported at the end of the cabinet 20 opposite the player position 14. The back glass assembly 32 has the usual pinball assemblies such as scoring displays 34, a game talley display 36, and ball-in-play display 38.

10

      A conventional pinball controller (not shown) is employed in pinball game 10. Preferably, it is of the microcomputer type and is programmed to control scoring and game play, according to state-of-the-art techniques,  
15       in response to operations of the ball propelling devices. A typical pinball game controller is that used by D. Gottlieb & Co., Northlake, Illinois, for example, in its current pinball games. Although it is believed unnecessary for purposes of an enabling disclosure, an instruction manual for Gottlieb's Mars God of War game or Gottlieb's Volcano game is specifically incorporated herein  
20       by reference to the extent necessary.

      Referring now to the reverse-sloped playfield 12, in  
25       the preferred and illustrated embodiment it is supported by conventional brackets 17 within the cabinet 20 to underlie the primary playfield 16. The brackets 17 may be movably mounted to allow the operator to adjust the angle, of inclination of the playfield 12. Specifically the  
30       bracket 17 has a series of vertically spaced openings 18, and pegs 19 are selectively inserted into the opening 18 which yields the proper inclination of the playfield 12. The underside of the playfield 12 rests upon the peg 19. Similar brackets 17 and pegs 19 are employed on the other  
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side (right hand side as viewed in Fig. 3) of the playfield 12. The playfield 12 is spaced from the playfield 16 and is generally located centrally under the primary playfield 16. The playfield spacing is at least the diameter of a ball and the height of the ball propelling elements on the playfield 12 to allow ball play on the lower playfield 12. The spacing between the playfields 12, 16 extends around the entire periphery of the lower reverse sloped playfield 12 so that the playfields 12, 16 are not contiguous.

In the preferred and illustrated embodiment, the ball playing portions of the playfields 12, 16 and preferably the entirety of the playfields 12, 16, lie in planes. These planes preferably are at angles from normal which differ in magnitude, i.e., have a different absolute pitch. Specifically, the slopes of the playfields 12, 16 are different so that one playfield plays faster than the other playfield. In the preferred and illustrated embodiment, the reverse playfield 12 lies in a plane which has a greater pitch from normal than the playfield 16 so that game play on the lower playfield 12 is faster than that on the playfield 16. In the preferred and illustrated embodiment, the angle which the playfield 16 makes from horizontal is 7 degrees, and the angle which the reverse playfield 12 makes from horizontal is -15 degrees. As earlier indicated, the slope of the playfield 12 is operator adjustable due to the adjustable mounting brackets. This is a feature which allows the operator to increase or decrease the slope to effect faster or slower play on the playfield 12.

Disposed on the lower playfield 12 are the usual thumper bumpers (not shown), flipper mechanisms 30A and other ball propelling apparatus. Operation of the ball

propelling elements on the lower playfield 12 causes scoring on the displays 34 in a conventional manner. As seen from the figures, the flipper mechanisms 30, 30A are disposed to propel the ball in planes of opposite slope during play. The flipper mechanism 30A actively propels the ball towards the player position 14 after the ball has rolled downwardly away from the position 14 towards the mechanism 30. These are believed to be novel features which will be attractive to pinball players.

As seen in Figure 3, a kicking rubber 35A is provided to include an actuating mechanism 35B disposed on the underside of the playfield 16, and to include a ball contacting rubber mechanism 35C supported on the lower playfield 12. Lowering of the playfield 16 into the play position in the cabinet 20 inserts the actuating mechanism 35B into the rubber mechanism 35C to allow operation during game play. Placing the actuating mechanism on the bottom side of the playfield 16 is advantageous in that it economizes on space and facilitates wiring.

The playfields 12, 16 are designed to allow them to be confined in a conventional pinball cabinet and yet provide space for one or more ball transfer mechanisms 40 which allow transfer of the ball from one playfield to the other.

As an outstanding feature of the invention, the playfield 16 is specially designed to allow viewing of the lower playfield 12.

To this end, one or more window mechanisms are provided in the primary playfield 16. In the illustrated embodiment a single window mechanism 42 is shown. The window mechanism preferably is comprised of a relatively

flat, generally transparent material such as a pane 44 of plexiglas. The pane 44 lies in the plane of the primary playfield 16 to minimize disturbance of the roll of the ball during play. As a matter of preference, the pane 44 may be tinted to facilitate viewing of the underlying playfield 12 and to reduce glare. The window mechanism 42 is described in more detail with reference to Figures 8 and 9.

The ball transfer mechanisms 40 illustrated in Figures 1 to 3 include a conveyor 46 in the form of a tube leading from the upper playfield 16 to the lower playfield 12. One end of the conveyor 46 is adjacent an opening 47 in the playfield surface 16. The other end of the conveyor 46 includes a ramp 46A and is disposed in relation to the playfield 12 to allow the ball to gently enter play on the playfield 12.

A second conveyor 48 is disposed at the lower end of the playfield 12 and leads to the outhole 31 on the upper playfield 16. The conveyor 48 takes the shape of a tube having one open end 52 to receive a ball passing between the flipper mechanisms 30A, i.e., to receive a ball lost during play. The conveyor 48 has another open end 54 at the outhole 31. A solenoid-operated up-kicker mechanism 56 is disposed at the end 52 for propelling the ball upwardly to the end 54 when the ball arrives at the open end 52.

Electronic control circuitry coupled to the pinball controller is included for controlling the operation of the playfields 12, 16, when the ball transfers from one playfield to the other. In this preferred and illustrated embodiment, a switch 60 (see Figure 2) is included as an

input to the pinball controller. The switch 60 is disposed in the conveyor 46 and is actuated when the ball transfers from the upper playfield 16 to the lower playfield 12. Operation of the switch 60 deactivates at least some of the elements on the playfield 16 and activates the flippers and thumper bumpers, lights, etc., on the lower playfield 12. The particular selection of game elements which are actuated and deactuated on the two boards are a matter of choice by the designer. Further, the scoring algorithm selected for use in connection with playfield 12 operation is further a matter of design choice; for example, lower playfield scoring may decrease the overall point total as a penalty score for premature entry onto the lower playfield.

Although a rather specific embodiment has been described, it will be understood that various modifications can be made without departing from the spirit and scope of the invention. For example, one, two, or any number of playfields may be employed with preferably at least one playfield having a reverse slope. Various types and differing numbers of ball transfer mechanisms may be employed to transfer the ball from playfield to playfield. All such modifications are understood to be part of the invention.

Alternative embodiments of the invention are now described with particular reference to Figures 4 to 7 of the drawings.

In operating the pinball game 10, the ball is propelled onto the first playfield 16 by the shooter 24, and the player accumulates a score based upon his engagement of targets which are located on the first playfield 16.

The ball may be transferred from the playfield 16 to the playfield 12 by the player directing the ball into hole 47 on the upper playfield 16. A transfer mechanism is provided between the upper playfield 16 and the lower playfield 12, and the ball travels on that transfer mechanism, after passing through hole 47. The transfer mechanism is utilized to prevent damage to the lower playfield 12 from the ball dropping directly onto the lower playfield 12.

With reference now to Figure 4, in this alternative presently preferred embodiment of the present invention, the transfer mechanism takes the form of a generally helical-shaped member 128 on which the ball travels while it is being transferred from the upper playfield 16 to the lower playfield 12. The travel of the ball on the helical-shaped member 128 causes vertical, forward and lateral forces to be applied to the ball to effect a three-dimensional ball motion during the travel time. As the ball emerges from the helical coil 128, it enters the second playfield 12. The helical coil 128 may be at least substantially enclosed by an elongated tube 130, which may, for example, be made of plexiglas.

In this preferred embodiment, the inside diameter of the coils in the helical-shaped member 128 is slightly less than the diameter of the ball.

The transfer mechanism of Figure 4 therefore replaces one of the transfer mechanisms 40 illustrated in Figures 1-3 of the drawings, namely the transfer mechanism incorporating the conveyor 46 and the ramp 46A.

Now referring to Figures 5 and 6, there is shown a further alternate embodiment of a transfer mechanism in accordance with the present invention. This embodiment comprises a planar member 134 into which a serpentine groove 136 is formed. One end of the groove 136 is located near the hole 47 or on the upper playfield, and after the ball passes through the hole, it enters the serpentine groove 136. As the ball travels along the forces are applied to the ball to effect three-dimensional ball motion.

Once the ball has entered the lower playfield 12, the player engages the targets on the lower playfield 12 by conventional techniques.

An advantageous aspect of the present invention as illustrated is that the score which is accumulated by the player during play on the lower playfield 12 is independent of the score which was accumulated based on play in the upper playfield 16. To this end, a lower playfield display (not shown) is disposed on the surface of the upper playfield 16. The lower playfield display is operated by the microprocessor controller to increment independently of the scoring displays 34. The score which is accumulated on the lower display due to play on the lower playfield 12 may be added to the score of the displays 34 to form a total score. Alternately, entry of the ball onto the lower playfield 12 may be regarded as a penalty condition, and any score accumulated by the player on the lower display due to play on the lower playfield 12 may be subtracted from the score on the display 34 which was accumulated based on play in the upper playfield 16. Yet further, the game may be configured such that, if a minimum score is achieved by the player during play on the



upper playfield 16, then the score achieved on the lower display based on play on the lower playfield 12 adds to the total score. However, if such minimum score is not achieved in the upper playfield 16, the score accumulated on the lower display due to play on the lower playfield 12 may be subtracted from the total score on the displays 34. Further, a bonus multiplier is suitably programmed into the microprocessor controller such that, upon achievement of certain playfield conditions, the lower playfield score is multiplied as a bonus prior to combining it with the upper playfield score. Of course, those skilled in the art will recognize that many other possibilities for scoring might be employed, all implemented by suitable programming of the microprocessor controller.

15

The alternative embodiment of Figures 4 to 6 conveniently uses the same upkicker mechanism 56 of Figures 1 to 3 for returning the ball from the lower playfield 12 to the upper playfield 16 upon the termination of play in the lower playfield 12. This upkicker mechanism operates to impart a velocity to the ball, which causes the ball to travel up the tube 48 and back onto the upper playfield 16.

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Another unique aspect of the present invention is that upon return of the ball to the upper playfield it may be "saved" for future pinball play, based upon the score which was achieved by the player during lower playfield play. With reference to Figure 7, there is shown a ball save mechanism, which includes a gate 140, in accordance with the present invention. The gate 140 is disposed with respect to the ball return lane so that opening of the gate swings it into the lane, forming a playfield access opening. Closing of the gate swings it out of the lane and closes the playfield access opening.

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If minimum pinball conditions are met during play in the lower playfield 12, the gate 140 operates to block the ball from entering the outhole and deflects it back onto the upper playfield 16 through the access opening, so that the player may continue pinball play in the upper playfield 16. However, if minimum pinball conditions are not achieved during play in the lower playfield 12, the gate 140 is not operated and remains closed. Upon return from the lower playfield when the gate 140 is closed, the ball enters the outhole 31, and pinball play is terminated. The microcomputer in the game controller operates to provide a signal to the gate 140 to operate as described above. The gate 140 is preferably solenoid-operated.

The window mechanism 42 will now be described in more detail with particular reference to Figures 8 and 9 of the drawings.

The playfield 16 is specially designed to allow viewing of the lower playfield 12. To this end, one or more window mechanisms 42 are provided in the primary playfield 16. In the illustrated embodiment a single window mechanism 42 is shown. The window mechanism preferably comprises a relatively flat, generally transparent material such as a pane 44 of plexiglas. As a matter of preference, the window 44 may be tinted to facilitate viewing of the underlying playfield 12 and to reduce glare.

In order to minimize the disturbance of the roll of the ball during play, the window 44 preferably lies in the plane of the primary playfield 16. In other words, the upper surface of the window 44 should be flush with primary playfield 16. The present invention provides such result.

With reference now to Figure 8, there is illustrated a cross-sectional view of the primary playfield 16 and the window mechanism 42. Protruding from the lower side of the playfield 16 in the opening to receive the window 42 are ledges 16A. The ledges 16A may be formed by notching the upper portion of the playfield 16, as shown, or by suitably attaching another piece of material to the underside of the playfield 16.

A plurality of holes 50 are formed around the outer edges of the window 44, and the holes 50 are preferably countersunk as shown. A plurality of holes 52 having respectively the same centers as the holes 50 are formed in the ledges 16A. As will become apparent from the following, the holes 52 are preferably smaller in diameter than the holes 50.

Atop each hole 52 is placed a grommet 54, which is made of a resiliently compressible material. Preferably, each grommet 54 is made of an open cell, neoprene sponge rubber of medium density. This has proven to provide outstanding results. Further, each grommet 54 includes pressure sensitive adhesive on the side which is placed in contact with ledge 16A.

Each grommet 54 is washer-shaped and has a hole formed in its center. In a preferred embodiment, each grommet 54 has an outer diameter of 1/2 inch (about 12 mm), and has a 3/16 inch (about 4 mm) diameter hole formed in its center. The thickness of each grommet 54 is preferably 1/4 inch (about 6 mm).

5       The window 44 is then mounted in the opening in the  
playfield 16 as follows. The window 44 is placed on top  
of the grommets 54. Since the sum of the thicknesses of  
the window 44 and the grommets 54 exceeds the height 56,  
the upper surface of the window 44 is not flush with the  
playfield 16 at this time.

10       Suitable securing means, for example, screws 58, are  
then inserted through the holes 50 and the holes in the  
grommets 54. The screws 58 are then tightened down, which  
causes the threaded portion thereof to engage the material  
of ledges 16A. As each screw 58 is tightened, the respec-  
tive grommet 54 is compressed as shown in Figure 9. The  
tightening of screws 58 continues until the upper surface  
15 of the pane 44 is brought flush with the playfield 16.

20       From the foregoing, it is seen that a simple, yet  
very accurate, method of, and apparatus for, mounting the  
window 44 in the plane of the playfield 16 is realized.

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CLAIMS:

1. A pinball game comprising a plurality of ball support-  
ing playfields, player controlled flipper mechanisms dis-  
posed on each playfield for forcefully propelling a ball  
thereon, and means for transferring a ball from one play-  
field to another playfield.
2. A pinball game according to claim 1, in which the  
playfields are in overlying relationship, and in which the  
one playfield is sloped in a direction opposite to that of  
the other playfield.
3. A pinball game according to claim 1 or claim 2, in  
which the one playfield is an upper playfield which slopes  
downwardly towards a player position at one end of the  
game, and the other playfield is a lower playfield which  
slopes downwardly away from the player position.
4. A pinball game according to claim 2 or claim 3, in  
which the game includes adjustment means for adjusting the  
slope of at least one of the playfields.
5. A pinball game according to any one of claims 1 to 4,  
in which the means for transferring a ball from one play-  
field to another comprises a conveyor for transferring  
a ball from a lower playfield to an upper playfield.

- 5           6.    A pinball game according to any one of claims 1 to 5,  
in which the means for transferring a ball from one play-  
field to the other comprises an exit area in an upper  
playfield to lead to a lower playfield.
- 10           7.    A pinball game according to claim 6, in which the  
means for transferring a ball from one playfield to the  
other comprises a transfer member to lead a ball from the  
exit area to the other playfield, the transfer member  
being adapted to impart vertical, forward and lateral  
forces to such a ball to effect three dimensional ball  
motion during ball travel along the transfer member.
- 15           8.    A pinball game according to claim 7, in which the  
transfer member includes a generally helical-shaped member.
- 20           9.    A pinball game according to claim 7, in which the  
transfer member includes a substantially planar surface  
having a generally serpentine groove therein.
- 25           10.   A pinball game according to any one of claims 1 to 9,  
which has two playfields, and which includes first means  
for accumulating a first score based on pinball play on  
the first of the two playfields, and second means for  
accumulating an independent second score based on pinball  
30           play on the second of the two playfields.
- 35           11.   A pinball game according to claim 10, further includ-  
ing means for relating the first score and the second  
score to provide a total score.

12. A pinball game according to claim 10 or claim 11,  
further comprising means for selecting a minimum score to  
be achieved during pinball play on the first playfield,  
and means for obtaining a total score by adding the first  
5 and second scores if the first score exceeds the minimum  
score, and by subtracting the second score from the first  
score if the first score is less than the minimum score.
- 10 13. A pinball game according to any one of claims 10 to  
12, further comprising means for deriving a bonus multi-  
plier based on the second score and for multiplying the  
first score by the bonus multiplier.
- 15 14. A pinball game according to any one of claims 10 to  
13, including a ball save mechanism to operate to direct a  
ball from the second playfield back to the first playfield  
for further pinball play upon the first playfield, if  
20 selected pinball conditions are achieved during pinball  
play on the second playfield.
- 25 15. A pinball game according to claim 14, in which the  
ball save mechanism is adapted to cause pinball play to be  
terminated if selected pinball conditions are not achieved  
during pinball play on the second playfield.
- 30 16. A pinball game according to any one of claims 1 to  
15, in which one playfield which overlies the other  
playfield includes a viewing area to allow viewing of the  
underlying playfield.

17. A pinball game according to claim 16, in which the viewing area includes a transparent window.

5 18. A pinball game according to claim 17, in which the window is defined by the overlying playfield having an opening therein, by the overlying playfield having a ledge along the periphery of the opening on the underside of the playfield, by a compressible material disposed on the  
10 ledge, and by the window located in the opening and being secured to the ledge by securing means compressing the compressible material such that the window and the playfield lie in substantially the same plane.

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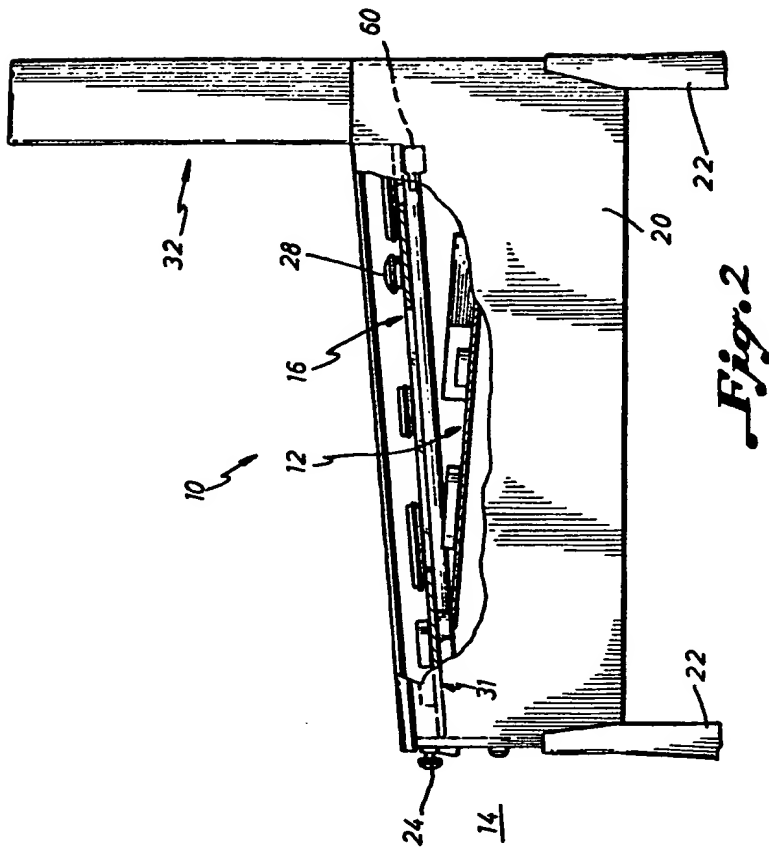
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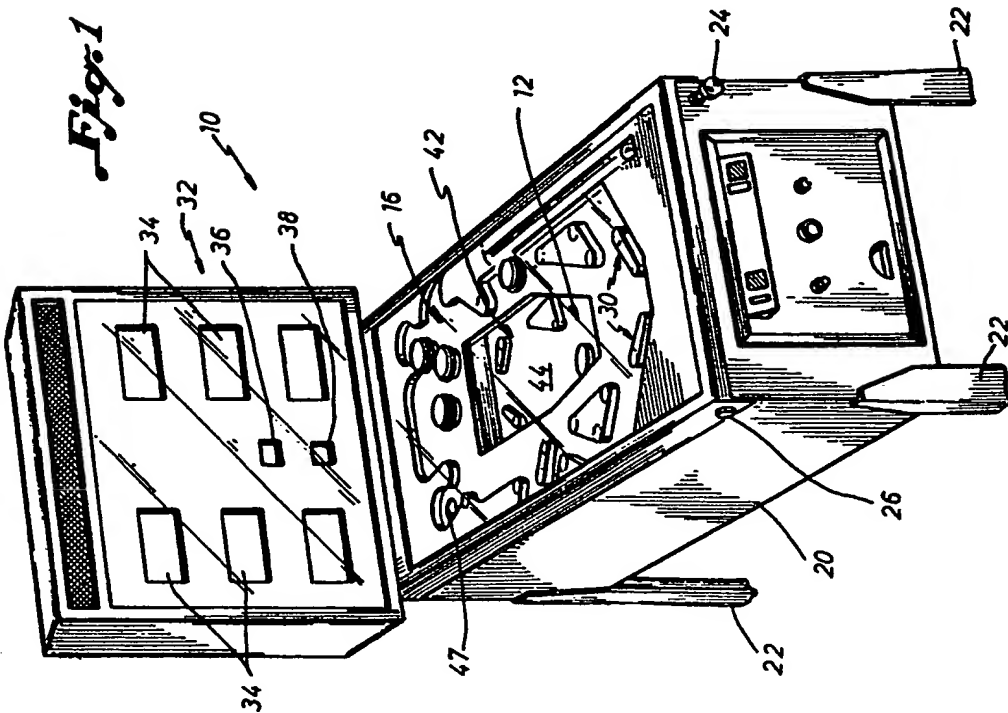
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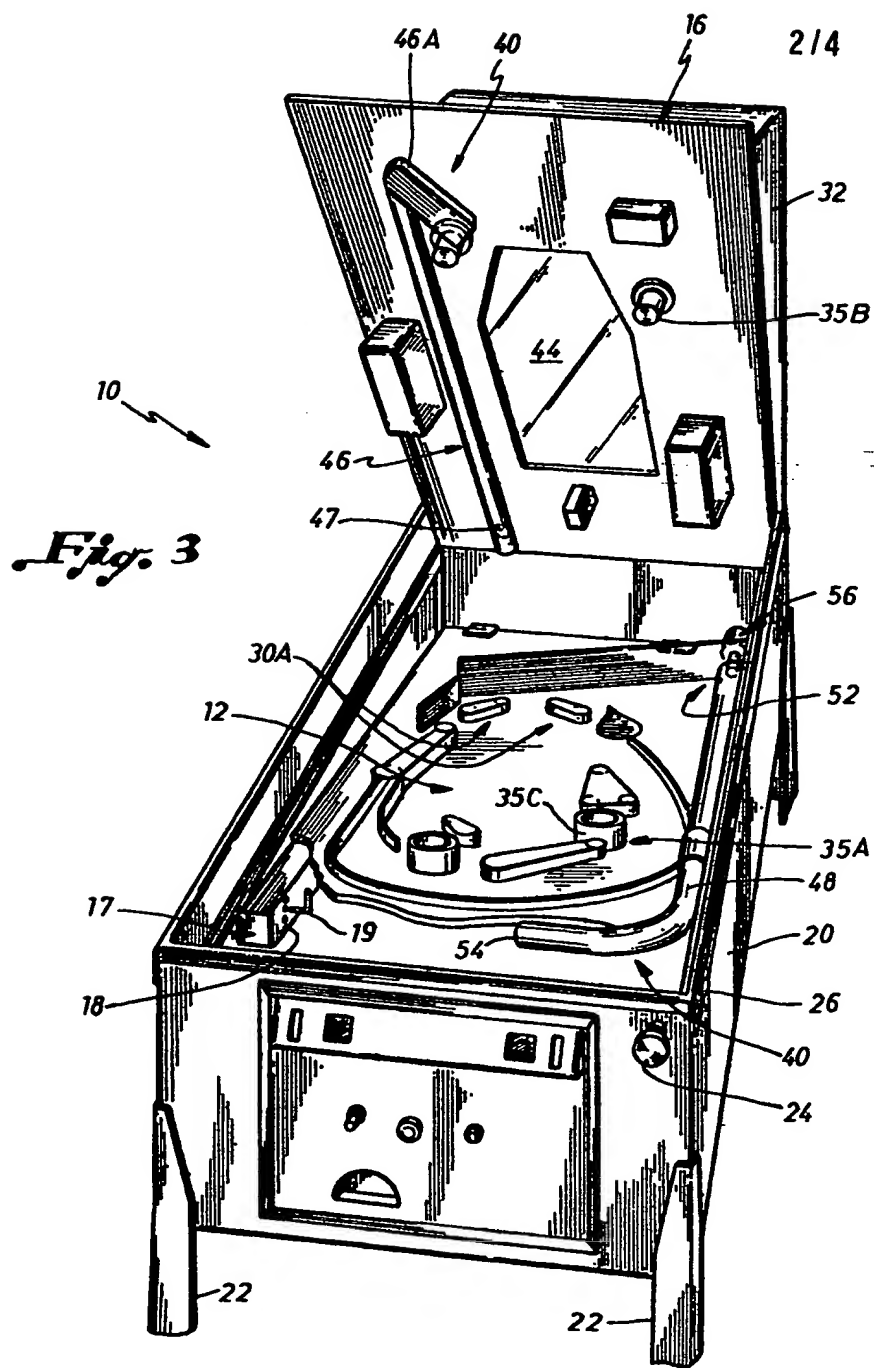


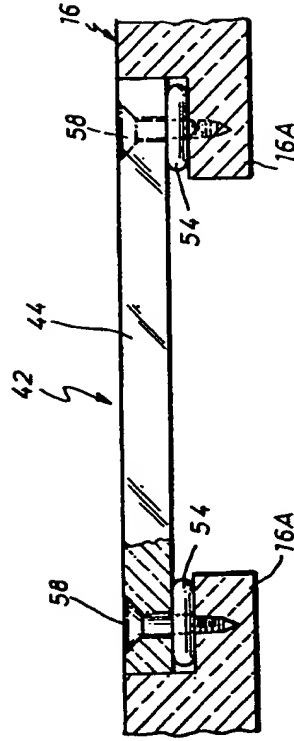
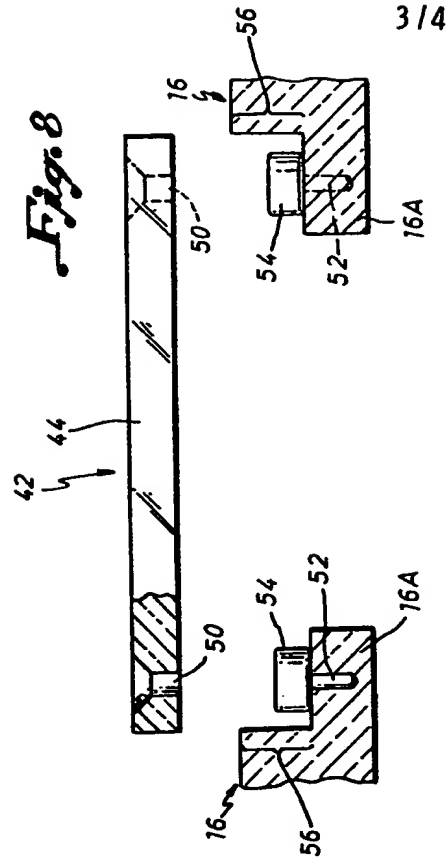
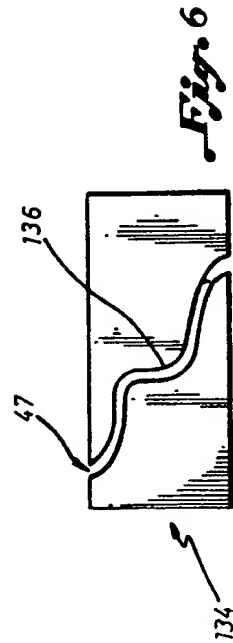
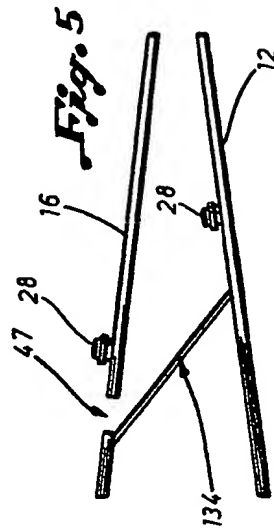
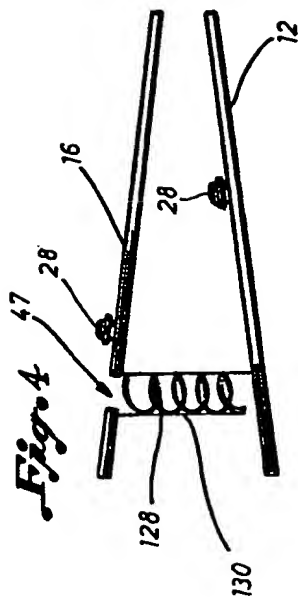
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*Fig. 2*



*Fig. 1*





*Fig. 7*